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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/911,850      | 07/25/2001  | Ikuo Aoki            | 1293.1228           | 3894             |

49455 7590 09/22/2006

STEIN, MCEWEN & BUI, LLP  
1400 EYE STREET, NW  
SUITE 300  
WASHINGTON, DC 20005

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| EXAMINER |
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ORTIZ CRIADO, JORGE L

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2627

DATE MAILED: 09/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/911,850

Applicant(s)

AOKI, IKUO

Examiner

Jorge L. Ortiz-Criado

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,6-14,16,18,19,21,22,24 and 25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,6-14,16,18-19,21-22 and 24-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/06/2006 has been entered.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 1, 6, 7-14, 16, 18-9, 21-22, 24 and 25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1, 11 and 24-25 recites “a predetermined pattern unrelated to the user data is recorded in at least one of the coupling areas of the first zone..., and recording a predetermined pattern unrelated to the user data”.

Description from the specification related to predetermined pattern includes:

The specification at page 4, section [0018], states “After an action of recording user data in a zone (n-m) is completed, predetermined pattern is recorded in a section of the zone”; section [0020] states “the aforementioned predetermined pattern recorded in a section of the recorded zone is not related to the user data and may be arbitrarily determined based on the system in use”; section [0022], states an arbitrary pattern in the coupling area.

However, it is not clear what the Applicants meant to be the predetermined pattern not related to the user data and “arbitrarily determined based on the system in use”. It is not clear how such system defines the difference in the arbitrarily pattern and the relationship with the user data. Therefore, the specification does not enable one skilled in the art as to determine such predetermined pattern unrelated to the user data, to make the invention.

For purposes of examination the claim are interpreted with the broadest reasonable interpretation.

Claim 16 further recites wherein the “third predetermined pattern” recorded in the coupling area is based on a recording or reproduction system to perform recording or reproduction, respectively, to or from the optical disc.

However, as outlined above with the supporting disclosure, it is not clear how such system defines the difference in the arbitrarily pattern and the relationship with the user data.

2. Claims 11, 24 and 25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 11, recites “each predetermined pattern being unrelated to the user data”. The Examiner cannot readily ascertain with the above claim language where in the specification as originally filed support is found for predetermined pattern being unrelated to the user data for the zone patterns as claimed. Hence, the new limitation introduces new matter.

Claim 11, recites, “a first predetermined pattern is first recorded in the zone start pattern”, “a second predetermined pattern is recorded in the zone end pattern.”

The Examiner cannot readily ascertain with the above claim language where in the specification as originally filed support is found for recording a “pattern” in a “pattern”. There is absolutely no disclosure as to record any pattern in a pattern as claimed.

Hence, the new limitation introduces new matter. Applicant cooperation is respectfully requested.

Claim 24, recites the limitation “recording a zone start pattern in a leading portion of the user data portion of the zone”. The Examiner cannot assert where in the disclosure this limitation is found. Hence, the limitation is considered new matter. For purpose of examination this limitation is interpreted as to “recording a zone start pattern in the zone”.

Dependent claims 6-14, 18-19, 21-22, fall together accordingly, with their respective parent claims.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 6-10 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the coupling areas" in line 9 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 and 7, each recites, recites functional language not associated with a structure or element and is vague and indefinite. Functional language includes "wherein a sequence on recording or reproduction of data in each zone is performed according to a following sequence:"

It is not clear how these limitations are structurally associated with the claimed optical disk, since they appear to be drawn to functions or method steps performed at the time of recording/reproduction by such apparatus.

Claim 13 recites the limitation wherein land and groove recording and reproduction is possible, respectively, to and from more than one spiral of the optical disc, but only a desired result of "**possible** recording and reproduction" is recited in the claim. Accordingly, it is unclear

from the claim as to how such possible recording and reproduction is obtained and the association with the structure of the optical disk since there is no structure relating the recording medium that makes the recording medium to get such desired result.

It is not clear how this limitation is structurally associated with the claimed optical disk, since they appear to be drawn to functions or method steps performed at the time of recording/reproduction by such apparatus.

Dependent claims 8-10 fall together accordingly, with their respective base claims.

### ***Claim Objections***

Claims 6, 7 and 13 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

The claims recites limitations drawn to functions or method steps performed at the time of recording/reproduction by an apparatus, which does not further limits structurally the claimed optical disk.

*Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 6-10 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Aoki, Japanese Publication No. 2000-195060.

Regarding claim 1, Aoki discloses an optical disc for use with a recording/reproducing apparatus, the optical disc comprising:

track grooves formatted into a waved pattern in the radial direction of the disc, the disc being divided into a plurality of zones (See Detailed description paragraphs [007]-[008], [0013]-[0015]; Drawings 1,2),

in which user data is recorded by the apparatus with zone address information for each of the divided zones based on a predetermined modulation rule (See Detailed description paragraphs [007]-[008], [0013]-[0015]; Drawings 1,2,5),

wherein each zone has an initial recording capacity and, during recording of the user data by the apparatus, a zone start pattern and/or zone end pattern is additionally recorded in each zone” by the apparatus (See Detailed description paragraphs [0028]-[0030]; Drawings 5, “Address information of the zone recorded in the ID part), when a first zone is detected by the



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apparatus, user data (data recorded in data part) is recorded in the data recording area of the first zone before “predetermined pattern unrelated to the user data” is recorded in at least one of “the coupling areas” of the first zone, which is recorded until a next zone is detected (See Detailed description paragraphs [0028]-[0030]; Drawings 5 shows the pattern division between each zone in each m-1,m, and m+1 zones etc.).

In regard to claims 6 and 7, Aoki discloses wherein the track grooves comprise a land portion and a groove portion, (See Detailed description paragraphs [002]-[008], [0013]-[0015]; Drawings 1,2,5) Functional language “wherein a sequence on recording or reproduction of data in each zone is performed according to a following sequence:” does not provides association with a structural limitation of the optical disk claimed.

Regarding claim 8, Aoki discloses wherein the optical disc is a DVD-RAM disc (See Detailed description paragraphs [002]-[008], [0013]-[0015]; Drawings 1,2,5).

Regarding claim 9, Aoki discloses wherein each zone has a plurality of sectors (See Detailed description paragraphs [002]-[008], [0013]-[0015]; Drawings 1,2,5).

Regarding claim 10, Aoki discloses wherein each of the plurality of sectors has a sector address portion to store a corresponding sector address (See Detailed description paragraphs [002]-[008], [0013]-[0015]; Drawings 1,2,5).

Regarding claim 25, Aoki discloses a method of recording data on an optical disc, comprising:

recording user data (data recorded in data part) in the user data portion of the zone (See Detailed description paragraphs [0028]-[0030]),

recording a predetermined pattern unrelated to the user data in an additional coupling portion of a zone of the optical disk, after the recording of the user data (Drawings 5 shows the pattern division between each zones in each m-1,m, and m+1 zones etc.),

recording a zone start pattern and/or zone end pattern in each zone during recording of the user data (See Detailed description paragraphs [0028]-[0030]),

dividing the optical disc into a plurality of zones; formatting a zone address portion of one of the zones to include a wobble pattern based on a predetermined modulation rule and corresponding to an address of the zone (See Detailed description paragraphs [007]-[008], [0013]-[0015]; Drawings 1,2).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 11, 12-14, 16, 18, 19, 21-22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki, Japanese Publication No. 2000-195060 in view of Hui U.S. Patent No. 4,229,808.

Regarding claim 11, Aoki discloses an optical disc for use with a recording/reproducing apparatus, the optical disc comprising:

a plurality of tracks formed in a spiral direction of the optical disc, each track having at least a groove portion (See Detailed description paragraphs [007]-[008], [0013]-[0015]; Drawings 1,2); and

a plurality of zones, each zone including a predetermined number of the plurality of tracks and each zone further including a data recording area (See Detailed description paragraphs [007]-[008], [0013]-[0015]; Drawings 1, 2, 5),

a zone start pattern at an inner circumference of the data recording area (See Detailed description paragraphs [0028]-[0030]; Drawings 5, “Address information of the zone recorded in the ID part”),

at least one coupling area at inner circumference of the zone start pattern and/or an outer circumference of the zone, the coupling area being separate from a user data recording area of each zone (See Detailed description paragraphs [0028]-[0030]; Drawings 5 shows the pattern division in the coupled area between each zones in each m-1,m, and m+1 zones etc.),

wherein the optical disc is formatted to include zone addresses for each zone by formatting a portion of the corresponding zone track grooves, in each zone, to include a wobble pattern based on a predetermined modulation rule, and wherein (See Detailed description paragraphs [007]-[008], [0013]-[0015], Drawings 1, 2), and

wherein during recording of user data by the apparatus, a “first” predetermined pattern is first recorded in the zone start pattern “Address information of the zone recorded in the ID part), then user data (DATA) is recorded in the data recording area, and then “third” predetermined pattern (pattern division between each zones in each m-1,m, and m+1 zones etc.) is recorded in the coupling area, each predetermined pattern being unrelated to the user data. (See Detailed description paragraphs [007]-[008], [0013]-[0015], [0028]-[0030]; Drawings 5).

Aoki has the desirability of obtaining the start and end position of each zone by providing a zone start pattern (ID) at an inner circumference of the data recording area, so as to detect where a zone start and which inherently provides when a previous zone ends. But, Aoki does not expressly disclose a zone end pattern at an outer circumference of the data recording area.

However, this feature is well known in the art and is evidenced by Hui, which discloses an optical disk comprising: a plurality of tracks formed in a spiral direction of the optical disc, a plurality of zones (segments), each zone including a predetermined number of the plurality of tracks and each zone further including a data recording area where user data is recorded (A,B,C) and a zone end pattern (E) at an outer circumference of the data recording area (see Figs. 1 and 2).

It would have been obvious to an ordinary skill in the art at the time of the invention to include a zone end pattern at an outer circumference of the data recording area, in order to signify the end of the zones (segment) and prevents any overlapping of recorded data by detection of the zone end pattern, as taught by Hui.

Regarding claim 12, Aoki further discloses wherein each track further includes a land portion (See Detailed description paragraphs [007]-[008], [0013]-[0015]; Drawings 1,2).

Regarding claim 13, Aoki further discloses wherein land and groove recording and reproduction is possible by the apparatus, respectively, to and from more than one spiral of the optical disc See Detailed description paragraphs [007]-[008], [0013]-[0015]; Drawings 1,2).

Regarding claim 14, Aoki discloses wherein the optical disc is a DVD-RAM disc (See Detailed description paragraphs [002]-[008], [0013]-[0015]; Drawings 1,2,5).

Regarding claim 16, Aoki discloses wherein the “third predetermined pattern” is recorded in the coupling area, with the pattern is based on a recording or reproduction system to perform recording or reproduction, respectively, to or from the optical disc (See Detailed description paragraphs [007]-[008], [0013]-[0015], [0028]-[0030]; Drawings 5 shows the pattern division between each zones in each  $m-1$ ,  $m$ , and  $m+1$  zones etc.).

Regarding claim 18, wherein the predetermined modulation rule is one of an FM modulation, an AM modulation, and a PM modulation (Inherently to Aoki).

Regarding claim 19, Aoki discloses wherein the predetermined number of the plurality of tracks for each zone is based upon the data recording capacity needed for each zone plus an

arbitrary recording capacity (See Detailed description paragraphs [007]-[008], [0013]-[0015], [0028]-[0030]; Drawings 5-“entire zone capacity”).

Regarding claim 21, Aoki discloses wherein each zone has a plurality of sectors (See Detailed description paragraphs [002]-[008], [0013]-[0015]; Drawings 1,2,5).

Regarding claim 22, Aoki discloses wherein each of the plurality of sectors has a sector address portion to store a corresponding sector address (See Detailed description paragraphs [002]-[008], [0013]-[0015]; Drawings 1,2,5).

In regard to claim 24, Method claim (24) is drawn to the method of recording the corresponding recorded disk claimed in claim 11. Therefore method claim 24 corresponds to recording medium of claim 11 and is rejected for the same reasons of obviousness as used above.

### ***Response to Arguments***

Applicant's arguments filed 05/05/2006 have been fully considered but they are not persuasive.

Applicant argues that Aoki does not disclose ‘coupling areas” and zone start pattern.

The examine cannot concur with the applicant because Aoki discloses a coupling area, as each and **every area** between the plurality of zones is a coupling area and further coupled by the

predetermined pattern between each zones in each m-1,m, and m+1 zones etc.), as shown in Fig. 5.

Aoki discloses a zone start pattern “Address information of the zone recorded in the ID part) clearly shown in Fig. 5 and explained in paragraphs [0028]-[0029].

Applicant argues that Aoki does not disclose a zone end pattern.

The feature is taught by Hui, as outlined above, a zone end pattern (E) at an outer circumference of the data recording area (see Figs. 1 and 2).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jorge L. Ortiz-Criado whose telephone number is (571) 272-7624. The examiner can normally be reached on Mon.-Thu.(12:30 pm- 9:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea L. Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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ANDREA WELLINGTON  
SUPERVISORY PATENT EXAMINER